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INSTRUCTION IN CHEMISTRY.

[THE following correspondence, although written last year, will still be read with interest by the profession. The respectability of the writers, and the continued importance of the subject, together with the fact that the letters have not before been published, will suffice as an apology for their insertion in the Journal at this late period.—ED.]

To the Editor of the Boston Medical and Surgical Journal.

DEAR SIR,—You will remember that, at the meeting of the American Medical Association in May last, I proposed a resolution relative to instruction in chemistry. This resolution was referred to the Committee on Medical Education. Will you lay before that committee the accompanying letter from Professor Horsford? There are some good hints in it. Within the last eighteen months I have had an opportunity of studying, a few hours a week during two terms, at the Scientific School at Cambridge. By that study I gained an insight into the whole subject of chemical science, which I never could have gained in any other way.

I am inclined to believe that some arrangement can be made whereby the object I desire may be attained. I am not, however, prepared to suggest any definite plan, because it would, perhaps, be premature. I desire, however, that the subject should not be allowed to rest where it is, but that it should be discussed from time to time until we have satisfactorily decided upon some new plan, or that our present imperfect methods are all that can be pursued. For this purpose, I would, with great deference to your committee, suggest that resolutions like those appended to this communication be reported to the meeting in Charleston.

Very truly yours,

HENRY I. BOWDITCH.

Boston, April 15, 1851.

Resolved, That the Committee on Medical Education be requested to correspond with the various medical schools of the country, and to report the usual methods pursued in teaching chemistry.

Resolved, That said committee be requested, if possible, to devise some plan for the more thorough instruction of medical students in practical chemistry.

Reply of Professor Horsford to the Inquiries of Dr. Bowditch, in relation to Practical Chemistry.

Cambridge, April 11, 1851.

MY DEAR SIR,—A reply to the questions you have submitted requires a brief consideration of what shall be understood by the chemical education pursued at Cambridge.

It is obvious that, if a medical student is to receive the whole course of instruction in qualitative and quantitative analysis, and the elementary principles of experimental research, he must pursue his studies much beyond the period usually assigned to them in this country. Chemistry would require his almost exclusive attention for not less than two years. Such a measure of instruction in this science, however important to the teacher of chemistry, or to one who contemplates physiological or therapeutical research, cannot be considered as indispensable to students of medicine generally, and, without additional time, cannot be engrafted upon our present system. The average pecuniary means of medical students, as well as the limited time, will not permit it. Something less might be attempted.

Now how much is practicable? The whole course of chemical instruction at Cambridge consists of

1st. Qualitative analysis.

2d. Quantitative analysis.

3d. Pharmaceutical chemistry, or preparations; and

4th. Research.

The course of qualitative analysis proposes to make the student practically acquainted with the characteristic properties of the principal substances occurring in nature, and as the product of manufactures.

Quantitative analysis succeeds this, and makes the student acquainted with the methods of determining, by weight or volume, the relative proportions of ingredients in a compound. It brings into application all the skill, patience and neatness the previous course has developed.

Pharmaceutical chemistry teaches the method of preparing substances in their purity, and, with the preceding course, qualifies the student for research.

The methods of experimental investigation are as various as the fields into which investigation is carried. The student of medicine needs greater familiarity with the modes of research in organic chemistry than the metallurgist or manufacturer.

The practical analyst and the calico-printer, require each a special preparation.

With these preliminaries, I proceed to your inquiries.

1st. "Would it be possible to apply the methods pursued at Cambridge to a class of from one hundred to five hundred students?"

To this it may be replied, that the attempt to introduce into medical schools practical instruction in chemistry will probably be more successful if it propose not the whole course, but qualitative analysis only, and probably it would be well to prepare less than the whole of the qualitative course. I can conceive of no method by which so large a number as the lowest named could be taught practically by one person,

and especially if that person have, at the same time, duties as a lecturer to perform. Each student is necessarily a class by himself in the art of manipulation, and indeed throughout his whole study of practical chemistry.

2d. "If this be impossible, is there any plan you can suggest which would meet the end in view, viz., that the student should have practical chemistry as he now has practical anatomy in the dissecting room?"

To this I reply—A plan suggests itself which might be carried out in schools organized upon the plan of the Tremont School. It is this. The students remain, I am informed, in this school two years. They have two entire courses of lectures at the medical college, and two entire courses of spring and summer instruction, by recitation and practical exercises with the microscope, and in dissections. During the first spring and summer, the whole attention, to the exclusion of chemistry, might be given to practical anatomy and the other subjects which now occupy their attention. During the spring and summer following, the attention might be given chiefly to practical chemistry and pharmacy, in the place of anatomy.

Such a course need not interfere with clinical lectures, or the surgical cases on Saturdays. This amount of time would be amply adequate to the acquisition of what I conceive to be essential to a medical education, to wit, that the practitioner should be able to determine the nature and purity of at least the inorganic medicines he employs, and be able to make a thorough qualitative analysis of the secretions of the kidneys.

3d. "If no plan can be devised for a very large class, would it be possible to obtain facilities for a smaller number; for example, the students who have studied two years, and are about finishing their course of tuition?"

To this I have partially replied in my answer to the second interrogatory. I add, that as there are large numbers of medical students who do not pass their whole year in schools like the Tremont, they must be instructed, if at all, in practical chemistry during the course of lectures. This instruction, if given by the professor of chemistry, would require very efficient co-operation; but by devoting an hour on each of two afternoons in a week, alternately to classes of twenty, the students having opportunity to work, with the aid of a text-book and an assistant, in the intervals, there would be an amount of chemical knowledge acquired, I am safe in saying, a hundred times more valuable than could be obtained from lectures alone. This is upon the presumption that the requisite facilities will be furnished. They need not be expensive. A well-lighted and warmed apartment, with plain tables supplied with reagents, test-tubes, lamps, blow-pipes, &c., could be fitted up for such a course at a comparatively small expense. The students would bring no apparatus, pay only for what was broken, and take none away.

4th. "Supposing the price of the tickets for the chemical lectures to be fifteen dollars, what increase of expense would be needed for each man to enable the professor to provide such practical instruction?"

At this time the difficulty of finding assistants accomplished in this method of instruction, and, I may add, the want of familiarity with its

modes, incidental to the course generally pursued by our professors of chemistry, will doubtless make instruction expensive in the outset. Still, if the class of graduating students as a whole, or twenty-five of them for example, shall decide to pursue such a course, the total additional expense need not exceed twenty-five to thirty dollars for each student. This estimate is founded upon the supposition that the fixtures and outfit are provided, and the current expenses and a reasonable charge for tuition only to be considered.

With great regard, I am, my dear Sir, faithfully yours,
E. N. HORSFORD.

Dr. Henry I. Bowditch.

REPLY TO "STRICTURES ON 'STRICTURE OF URETHRA.'"

To the Editor of the Boston Medical and Surgical Journal.

SIR,—On reading in your Journal of March 10th, the article "Strictures on 'Stricture of the Urethra,'" represented to be written by "a professor in a distant medical school," some feeling of pride was at first elicited, that my report should have merited the notice of any one; but more especially of one of so respectable a character. Detecting, however, in the *learned professor's* remarks, rather a fault-finding spirit, than that of a candid critic, and from its anonymous character exhibiting evidence of malice, at first I concluded to be governed by the old adage—"anonymous communications merit no notice." But being notified recently that the Southern Massachusetts District Medical Society is to convene at New Bedford in a few days, I judged that an opportunity would present itself for the reading of a communication to that body; and on reflection concluded to make the subject of one, for that occasion, a reply to "strictures on 'stricture of the urethra.'"

In reporting the case under criticism, it was not intended to enter into detail, but merely to give a very general account of it, for the purpose of placing it in some form before those of the profession who take an interest in perusing cases of singularity.

The *learned professor* quotes me as follows:—"The nature of the case under consideration was evinced by the retention of urine, and the groans of the patient." Here, that my meaning shall not be perverted, I must remind the professor that he should have quoted me a little further, as follows:—"I learned that when the patient was 9 years old, he received an injury, &c., and from that time there had been occasionally some difficulty in urinating—sometimes amounting to complete retention; but with the aid of quietude, rest and medicine, he was speedily relieved." What were those medicines? They were of a very mild nature; and nothing more than sweet spirits of nitre, and uva ursi that grew near the patient's house. In reference to what had been done by my predecessor, the learned professor further quotes me—"all was found to be judicious; and ordered, with some alteration, a continuance of the medical course, which consisted in aperients, diuretics, fomentations, and anodynes by draughts and enema." The above-named medicines, sweet

spirits of nitre and uva ursi, were the remarkable diuretics which the patient conceived, in former attacks of his malady, very much contributed to mitigate his sufferings. The professor further quotes me—"Aug. 22d, 2 o'clock, P.M.—Now sixty hours since micturition, with the exception of discharge of half an ounce in the interval of last visit." He should have quoted from the context as follows—"At 4 o'clock in morning, left my patient for a few hours. I have been absent much longer than expected," which gives the fair inference that I was absent ten hours from the patient from unavoidable circumstances. He then quotes—"bladder much distended, very sensible and perceptible to the touch in pubic region;" and puts the following questions:—"If the patient had been taking diuretics for sixty hours, and only half an ounce of urine had been voided during that period, would the author expect anything else but a distended bladder?" Second—"If the treatment the day before [or on my first visit] was judicious, why were the diuretics omitted, and a blister to the loins substituted?" Before these questions are answered, let us look a little further. There are different degrees of retention of urine, as well as varieties, which are often blended, and they are to be treated on general principles, and according to symptoms. On my first visit the distension of the bladder was not proportioned to the suffering of the patient; but on my second visit, ten hours after, a very material change had taken place. The pain and distension of the bladder had much augmented, as well as the pulse; and indicating twice the amount of inflammation, both general and local, with spasm of the urethra, as evinced by catheterization. When announced to the nurse that the bladder was more distended, she remarked, that "for the last eight hours the patient's perspiration had dried up; and that he had been very hot, and contrary to orders had indulged largely in cold water." Now I think we are better prepared to solve the learned professor's questions—for certainly, if on my second visit, and after an interval of ten hours, the bladder was more distended, and inflammation and spasm were present, it was in accordance with the views of the best practitioners of medicine and surgery to discontinue the diuretics and apply a blister, if, notwithstanding, on the first visit all was found to be judicious, and that I had more reason to hope for mitigation of symptoms, than to "expect a distended bladder." Among the numerous authorities that could be adduced, in support of the medical treatment of the case, let a few suffice. Dr. Good, on the treatment of retention of urine, says—"Inflammation is to be relieved by the ordinary means; and in addition to these, by anodynes, clysters and fomentations, a warm-bath, warm liniments (especially blisters to the perineum.) Spasm to be treated by the method just proposed for inflammation." Samuel Cooper—"It appears that almost every stricture, bad as it may be, is capable of being rendered still worse, and the morbid part of the urethra more impervious, by a spasmodic affection. Slight diuretic beverages may be prescribed." Druitt—"Stimulating plasters to the sacrum are sometimes of use." Dr. Thomas recommends—"In every instance of the complaint, whether arising from stricture, gravel, inflammation or spasm," diuretics of nitre, balsam of

copaiba, and other medicines of this class. From these quotations, and what already has been said, I hazard nothing in submitting the proposed question, as to the propriety of the use of the diuretics and blisters to the "present professor of surgery, or his illustrious predecessor, in the Massachusetts Medical College," with an undoubting confidence of a successful verdict.

The learned professor further quotes me—"On examining the state of bladder and its appendages, per anum, find their condition more abnormal than anticipated. The inferior portion and cervix enormously thickened, prostate barely distinguishable." Upon this quotation he asks two questions, first, "Which is situated nearest the verge of the anus, the prostate gland, or the inferior portion and cervix of the bladder?" In reply to this question, I am reminded of an anecdote of one of the presidents of a college in New England, many years since. It seems that he was hearing the recitation of a very dull scholar, and the question came up as to the belief of the existence of things, although invisible to the eye. The scholar could not understand how it could be, when the president illustrated the principle in a very clear light. The scholar still persisted in the negative, when the president very sarcastically asked him if he had faith in the existence of what he sat upon, and if he ever saw *that*. Second, "How does it happen that the 'inferior portion and cervix' of a bladder should become 'enormously thickened,' when distended and attenuated to such an extent as to contain 'more than five pints of high-colored, ropy urine?'" Samuel Cooper, in his *First Lines of the Practice of Surgery*, speaking of the retention of urine, says—"The bladder generally, in adults, has contained six or seven pints." Dr. Good, speaking of the quantity of urine contained in the bladder, says—"It has occasionally amounted to eight or nine pints, and there is a case given by M. Vildé, in the *Journal de Medecine*, in which it equalled sixteen pints." I now trust that the reader, without imputing to me large marvellousness, will believe that if the "inferior portion and cervix" of a bladder should become "enormously thickened," enough of the organ may remain undiseased, "when distended and attenuated, to contain more than five pints of high-colored, ropy urine."

In alluding to my visit on the 31st, the learned professor further says—"Some symptoms of peritoneal inflammation appearing, the author of the paper recommended the radical operation for stricture of the urethra. After cutting down upon the point of the catheter at the seat of the stricture, I would ask the writer if he thinks he would have been 'several times foiled by an interposing smooth substance, obviously of a membranous structure, either a fold of the mucous membrane of the bladder, or a partial membranous partition,' had he attempted to perform this operation when the bladder contained more than five pints of urine, and before it was punctured above the pubis? Or, if a male catheter had been passed into the wound above, and directed under the pubis, and into the prostatic portion of the urethra from within outwards, so as to be felt in the perineum, the operation would not have been more safely and expeditiously performed?"

In reply to the first question, it will be remembered that I stated the whole region, including the triangular space to the bulb, was much enlarged, distorted, and so indurated that it scarcely resiliated to the touch. This abnormal condition of the parts, at this stage of diagnostic information, "per se," was sufficient objection to the common radical operation—as was proved in the sequel by clear demonstration of the existence of a membranous partition, in attempting to bring the catheter in contact. Moreover, in depressing the external end of the catheter, no urine escaped—thereby showing that the *timid surgeon* could not depend upon any distension of urine, in the perineal region, as a guide through an urgent operation, and to compound for ignorance in anatomical knowledge; and that paracentesis above the pubis was the only judicious operation that could have been resorted to with safety. The proposed mode of operating embraced in the second question, I deem unscientific and perfectly impracticable. The catheter is not the proper instrument to be used, where such an operation is necessary and practicable.* No case exists in the records of surgery, where a membranous partition of the bladder, of equal degree of firmness as in the present case, was attempted to be lacerated by a sane man, with the blunt end of a catheter, or proposed as in any degree worthy to be a substitute for the one which I practised, with at least ordinary success.

The learned professor, in concluding his remarks, alludes to the time that the patient was under my care, and his removal "to the Massachusetts Medical Hospital."† If this is done to insinuate that it was uncommonly protracted, I would suggest to him the perusal of similar cases, reported in this and other journals; to see whether they generally terminated more speedily and successfully than the one under criticism.

Having now touched upon all the questions of the learned professor, I am inclined to think that he will require all his stock of "charity" for his own purposes, and have none to spare "for the author," or "for the surgical character of the Southern Massachusetts Medical Society."

In conclusion, I would inquire of the learned professor, after all his display of sparkling learning and wit to vilify a *faithful report* of an *interesting surgical case*, if he has not utterly failed in making the *organ* of his criticism the *receptacle* of "*scientific truth*" or an *expositor* "of error"—either "*theoretical*" or "*practical*"; but on the contrary has not involved himself in a series of *absurdities and errors*; and if the words of Horace are not in point—"Parturient montes, nascitur ridiculus mus."

Very respectfully yours,

Wareham, May 5th, 1852.

PEREZ F. DOGGETT.

FELLIS BOVINI, AS A MEDICINE.

BY A. I. CUMMINGS, M.D.

[Communicated for the Boston Medical and Surgical Journal.]

THE bile from the gall of the ox has long been known to possess medicinal properties, and to some extent it has been used by the profes-

* See Boston Medical and Surgical Journal, vol. xxvii., page 361.

† For explanation of removal, vide original report of the case.

sion as a remedial agent, but I believe it has never gained that confidence among practitioners of which its real value renders it worthy. I have used it somewhat extensively in my practice for a few years past, and in this article I design to give only the result of my own experience with it, and the conclusions to which I have arrived in relation to its real and comparative value. Before proceeding, however, I would remark that the *form* in which I have almost invariably exhibited it, is that of pills, made of the inspissated gall, rolled in flour, magnesia, pulv. glycyrrhiza or some other fine powder, to render them of a suitable consistency. The gall may be evaporated in shallow basins, in an oven, or by the heat of the sun, until it becomes sufficiently firm to form into pills as above. This, in my opinion, is far the best method. It may be given in its liquid form, but it is less agreeable to the patient, and if not mixed with proof spirit, will soon become unfit for use. The medical properties of this agent, so far as my observation goes, are *laxative*, *alterative*, and *slightly tonic*. Its most valuable agency is exerted upon the stomach and liver. It seems to combine, in a remarkable degree, the three properties named above, and for many of the diseases to which the chylopoietic viscera are liable, I have found it a most excellent and valuable remedy. I proceed now to notice its application as a remedial agent in disease.

1st. *Obstinate Constipation*.—I am well aware that this is much oftener a *symptom* of disease, than disease *per se*; but I notice it in this place in order to speak of that form so common to those engaged in sedentary and confined occupations, and especially of females in large cities, amongst whom, for want of proper exercise and care, constipation is so prevalent, and so detrimental. In cases of this description, I have very seldom, if ever, been disappointed of obtaining relief by the use of the agent under consideration. The hardened, compact, clay-colored feces so common in cases where there is more or less obstruction of the function of the liver, are, by the use of the gall, broken down in the intestines, and rendered so friable as to be easily discharged. This result is procured, not only by the combination of the gall with the hardened concretions, rendering them soft and unirritating, but also by removing the obstruction, and permitting the natural flow of bile from the gall-bladder into the intestines. Thus it answers, in this respect, a two-fold purpose. Any one who doubts the efficacy of this remedy, by pouring a few drops of fresh gall upon hard clay-colored feces, and observing how soon the mass becomes liquid, cannot fail to be convinced. It imparts also a healthy tone to the bowels, and promotes the natural secretions which may have become impaired.

2d. In *Bilious Diseases*, arising from a torpid action of the hepatic function, the gall is an excellent remedy. It seems to act as a stimulant to the liver, and to promote the secretion of the bile, and also to cause it freely to flow into the bowels, and thus accomplish its normal function in the animal economy.

3d. In *Jaundice*, you will find that the exhibition of gall, if continued sufficiently long, even in small doses, will not fail to accomplish a desirable and satisfactory purpose. I could relate the history of many cases

in my own practice, in which there was every symptom of this disease, where the gall has acted in a most satisfactory manner. As a stimulant to the liver, I generally prefer it to blue pill or mercury in any form, though there may be chronic cases in which the mercury or some other alterative would be preferable. Whoever, at least, will thoroughly test the powers of this agent, I am confident will find that I have not exaggerated its value. At least I am willing to abide by the judgment of others who may test it, as to the truth of my assertions. It may be necessary to continue the exhibition of this remedy for some length of time in severe cases of jaundice, but it is perfectly harmless, and moreover it may be used in those cases in which mercury cannot be administered on account of the prejudice of patients or their friends against it, or of any idiosyncrasy of constitution where its use may be interdicted. At least it is a most valuable auxiliary.

4th. In *Dyspepsia*, also, I have in many cases seen the most gratifying results from the use of this remedy. It seems to impart a good tone to the stomach, and by its laxative effects upon the bowels, as well as by its soothing the irritated mucous surfaces of the stomach, proves in my hands, at least, an excellent remedy. It leaves the influence of a mild tonic bitter on the stomach, not sufficient, however, to produce pain, and its laxative effects in dyspepsia cannot but be beneficial, for in most cases in this disease the bowels are torpid, and not unfrequently obstinately constipated. As a remedy also collaterally.

5th. In *Hæmorrhoids and Prolapsus Ani*, the gall is justly entitled to our consideration and confidence. If it has no direct or specific influence in relieving these forms of disease, it is at least one of the best laxatives in the general torpor of the bowels which accompanies them, since it not only evacuates, but soothes the bowels, and does not produce the irritation in piles and prolapsus ani that most other articles of the class do. But I am also inclined, from my experience with the article, to believe that it exerts a very favorable influence, at least, in the cure of these troublesome and painful affections. At least it justly merits a fair trial.

6th. In *Bilious and Intermittent Fevers*, the gall cannot but exert a favorable influence, since its office is not only to act as an alterative, and to rouse the liver to its wonted action, but also to carry off from the bowels the superabundant bile, and to give tone to the chylipoietic system. In a word, in all those forms of disease (and they are many) arising from torpor of the hepatic function, I believe there are few medicines that will give equal satisfaction with the article under consideration, and it is certain that no remedy is more safe in its administration and effects.

One more tormenting and dreaded affection arising from bilious derangement, in which the gall acts in a very favorable manner, I had almost forgotten to mention.

7th. *Sick Headache*, so called, though not, strictly speaking, a disease, is a sympathetic or symptomatic affection, of very frequent occurrence, and always excruciating, and dreaded by those who are subject to it periodically, or occasionally. As it arises from a bilious state of the

stomach, the gall, given in small doses, and as frequently as is necessary, seldom fails to mitigate the symptoms, or entirely to relieve or prevent its accession. It should be given in periodical cases for a season of at least a day or two before the anticipated attack.

8th. In *Typhus*, and *Typhoid Fevers*, it is an excellent laxative, where strong cathartics are not required, and will be found worthy of confidence whenever a remedy of the class seems to be indicated. Also in the low forms of

9th. *Nervous and Continued Fevers*, no better laxative, in my judgment, can be found, since in those cases strong cathartics are almost invariably contra-indicated. But I need not particularize further, since I believe enough has been said to give my ideas in relation to the class of cases in which this remedy is indicated; and as I cannot expect to gain the confidence of practitioners without their first giving the article in question a fair and impartial trial, I have perhaps already written too much. I am confident, however, that those who may make a fair trial of it will not accuse me of exaggeration, for I have endeavored candidly to give the value of the article as it has proved itself in my own practice, and not from theory deduced from the natural properties of the medicine. I have said it is necessary not unfrequently to continue the remedy for some length of time, in obstinate cases especially. But it is harmless and safe, and will act well in any constitution, and is contra-indicated by no form of idiosyncrasy. The dose of the inspissated gall in the form of pill, or otherwise, is from five to ten grains or more, repeated every two or three hours for a cathartic, and less for a mere laxative effect. It may be given in sufficient doses at any time, with perfect safety to adults or children.

Roxbury, Mass., June, 1852.

CUTANEOUS ABSORPTION.

[Communicated for the Boston Medical and Surgical Journal.]

THE communication made by me to the medical profession, through your pages, something like a year ago, excited a good deal of attention at the time, and has elicited not a few private inquiries, both at the East and the West, since that time. Many an individual has asked me—Do you really believe Mr. Robinson's story? "I am compelled to believe it," is my usual reply. "Mr. R. is not the man to make any wilful misstatement, and Mrs. R.'s certificate confirms the facts." But how can it be? it is again asked. How could a man gain in weight daily half a pound, when his whole ingesta, solid and fluid, was only about half that amount—leaving the *egesta* out of the question? My reply to this question is, "I suppose it must be by cutaneous or pulmonary absorption."

It would be quite indecorous, in such cases as these, to go farther, and point gentlemen, who have a diploma in their pocket, to chapter and verse in confirmation of Mr. R.'s story—or at least sustaining its possibility—in our common works on physiology. And yet it may save me

a little trouble, and do here and there a blockhead good (for unluckily such things have been known as blockheads in our profession), to refer him to Carpenter's Physiology, at page 504. The following is verbatim.

"The quantity of water which may be imbibed from the vapor of the atmosphere, would exceed belief were not the facts on which the assertion rests beyond all question. Dr. Dill relates the case of a diabetic patient, who for five weeks passed twenty-four pounds of urine every twenty-four hours—his ingesta during the same period amounted to twenty-two pounds. At the commencement of the disease he weighed one hundred and forty-five pounds; and when he died twenty-seven pounds of loss had been sustained. The daily excess of the excretions over the ingesta could not have been less than four pounds, making one hundred and forty pounds for the thirty-five days during which the complaint lasted. If from this we deduct the amount of diminution which the weight of the body sustained during the time, we shall still have one hundred and thirteen pounds to be accounted for, which can only have entered the body from the atmosphere.

"A case of ovarian dropsy has been recorded, in which it was observed that the patient, during eighteen days, drank six hundred and ninety-two ounces, or forty-three pints, of fluid, and that she discharged, by urine and by paracentesis, one thousand two hundred and ninety-eight ounces, or ninety-one pints, which leaves a balance of six hundred and six ounces, or thirty-eight pints, to be similarly accounted for." In this case, however, says Carpenter, something is to be allowed for the quantity of water contained in the solid food ingested.

"The following remarkable fact is mentioned by Dr. Watson in his Chemical Essays. A lad at Newmarket having been almost starved in order that he might be reduced to a proper weight for riding a match, was weighed at 9, A.M., and then again at 10, A.M.; and was found to have gained nearly thirty ounces in weight in the course of this hour, though he had only drank half a glass of wine in the interim. A parallel instance was related to the author by the late Sir G. Hill, then Governor of St. Vincent. A jockey had been for some time in training for a race, in which that gentleman was much interested; and had been reduced to the proper weight. On the morning of the trial, being much oppressed with thirst, he took one cup of tea, and shortly afterwards his weight was found to have increased six pounds, so that he was incapacitated for riding. Nearly the whole of the increase in the former case, and at least three fourths of it in the latter, must be attributed to cutaneous absorption; which function was probably stimulated by the wine that was taken in the one case, and by the tea in the other."

Now it is easy to see that there is a wide difference between gaining four and a half pounds in a single day from the atmosphere, as in the case of the jockey, and gaining half a pound, in the case of S. Robinson. And it was as much for the sake of making some small addition to medical science that I caused the case to be recorded, as for any other reason. I am a lover of facts, and a lover of science, as well as a deadly hater of empiricism and hollow pretension.

I might also add, it was a good deal in the same spirit that I made

my own experiments, many years ago, of abstaining from drink. Never for a day, did I believe, with Dr. Lamb, that man is not a drinking animal. The fact of Dr. Lamb's abstinence and many other considerations, it is true, had weight with me. Besides, my simple habits and general obedience to the laws of health and life made the experiments more easy to me than to most men, and therefore as a lover of science* I felt an increased obligation to make them. I allude, of course, to total abstinence from all drink for nine months and nineteen days in 1838-9; for six months or more in 1840; and then, with a partial suspension of only one or two days, of about eight months more in 1840-1. All this while, too, my perspiration was free but not profuse, urinary excretion not scanty, and every other function well performed. Moreover, I gained a little in weight during the first experiment.

West Newton, July 4, 1852.

Yours truly,

WM. A. ALCOTT.

PHLEGMASIA DOLENS OCCURRING IN A FEMALE, AND NOT CONNECTED WITH THE PUERPERAL STATE.

BY JOHN KELLY, M.D., OF ESPERANCE, N. Y.

[Communicated for the Boston Medical and Surgical Journal.]

ON the 7th of August, 1847, I was called to see Miss S. Scott, in the town of Schoharie, who had been many years feeble and rather leucophlegmatic. She was then laboring under fever, with headache, more on the left side of the head than on the right; pulse strong and tense. I thought it not advisable to bleed at this time, but a week after I bled her to the amount of about $\frac{3}{4}$ viij. This relieved the head, and perhaps a blister which I put to the nape of the neck had some good effect. The general treatment consisted in the use of blue pill, laxatives and digitalis purpurea.

Aug. 23.—Found her symptoms improving, headache gone, and appetite better; yet as her pulse was not quite soft enough to suit me, I thought best to continue treatment. In the absence of her mother about this time, she walked out to the orchard, and soon after complained of a pain in the hip near the joint.

Sept. 2.—Found her left leg some swollen, thigh more so; the inside of thigh excessively tender to the touch, tense, veins enlarged, with rather dark streaks and some hard lumps. The whole limb perfectly useless, giving the sense to her of great weight. The pulse, at this time, was more strong and tense than ever. The tongue had a white coat. Ordered purgatives of Ep. salts and cream of tartar, with an occasional dose of chloride of mercury and febrifuges.

4th.—Pain more intense than ever. Ordered anodynes and a powder of three fourths of a grain of digitalis and eight grains cream of tar-

* My whole life, for the last twenty-five years, has been a life of experiments. Medical men are often charged with making experiments on others, but I have made many more on myself than on my patients. They may be useful to the world, if I should not be called away so suddenly as to leave them unrecorded.

tar every four hours. Local applications of infusion of poppy and hot vinegar.

7th.—Found her no better. Ordered sal. ammoniac dissolved, and laudanum to the most painful parts; and to be given every four hours, five grains cream of tartar, three fourths of a grain of opium, as she had not slept for three or four days and nights.

9th.—Found her about the same. She wished to be moved often from her back to her side and vice versa. Ordered xxv. grs. calomel, crem. tart. v. grs., digitalis gr. j., every four or five hours.

10th.—Calomel operated favorably. She was easier; gums slightly affected. The thigh not so much swollen, nor so tender. Ordered pill blue mass and digitalis daily, applying a wash of op. ʒ i., sal. ammoniac, ʒ jiss., camphor, ʒ jss., dissolved in spirits.

11th.—Improving. Continue the same treatment.

12th.—Improving. Continue same treatment, and a cathartic of cream of tartar and jalap.

A few days after the left leg had become better, the right one was also in the same way affected, though not so severely. The fever, which had subsided, came on again, and the same treatment had to be resorted to for the purpose of subduing the constitutional symptoms, which were not so severe as at the time the first leg was affected. For some ten days there was no great improvement, except the swelling subsided measurably; but the limb continued oedematous for some time, and extremely weak. Indeed she was not able to walk for six or seven weeks after she otherwise improved. Her pulse became more soft, and her appetite improved. Anodynes once or twice a-day, and a pill of socotrine aloes, were continued for some time to compose the nerves and to regulate the uterine system. After a short time her health became confirmed, and ever since she has been one of the most healthy young ladies to be found.

June 20, 1852.

ON THE NUTRITION OF MUSCLES DURING THEIR CONTRACTION.

BY F. BROWN-SEQUARD, M.D., OF PARIS.

It is generally admitted that when a muscle is in a state of powerful contraction, circulation, and consequently nutrition, are nearly arrested in it.

The well-known fact that we are only able to maintain a permanent contraction in any of our muscles for a short time only, has been explained by a loss of strength occurring, from the supposed insufficiency of their nutrition. I have frequently performed a very simple experiment which proves that the cause of the rapid diminution of the power of our will, in that case, does not exist in the muscles themselves.

The experiment referred to has sometimes been made on my legs, sometimes on my arms; and it was conducted as follows: I took a weight in one of my hands, and kept my forearm in a state of flexion, so as to form with my arm an angle of only twenty-five or thirty degrees. In that condition some muscles, and more particularly the bi-

ceps, were in a state of permanent contraction. My ability to maintain my forearm in such a position, lasted between eight and twelve minutes. When I found it was completely impossible for me to keep my forearm in that position, an assistant applied the wires of an electro-magnetic machine to my shoulder and my forearm, so as to excite the biceps, and some other muscles, when, without any effort of my will, my forearm was maintained, nearly in the same position, during more than ten or even fifteen minutes.

After one or two minutes of galvanization, I occasionally tried again the action of the will, and I found that it was able to act anew.

If the explanation be true that the muscle is not sufficiently nourished, and loses, in a great measure, its irritability during its contraction, and that for this reason the will becomes unable to maintain the contraction longer than a certain time, then the action of galvanism ought to be incapable of producing the contraction. If galvanism is able to act as it does, it is because the circulation of blood, the nutrition, and consequently the muscular irritability, have been very little diminished in the contracted muscles.

I have made another experiment, proving, also, that nutrition continues to take place in muscles during their contraction. If the communication established by the nerves, between the muscles of a mammal and its spinal marrow, is left entire; and if the circulation is completely stopped in that limb, by an amputation of the leg at the hip-joint, then it is found that the muscles of that leg, under the excitation of a powerful galvanic apparatus, lose their irritability after ten or fifteen minutes. On the contrary, if the same galvanic excitation is applied to the muscles of the other leg of the same animal, it is found that the irritability remains a long time without a marked diminution, and that it cannot be completely exhausted. It diminishes little by little, but never disappears entirely. Therefore, it is evident that nutrition may take place in muscles during powerful contraction.

Four distinct organs are active in the case of a voluntary muscular contraction. 1st, the brain, i. e. the organ of the will; 2d, the spinal marrow; 3d, certain nerves; 4th, certain muscles. Which of these is the one which is deficient in the case of my first experiment? It is generally admitted that it is the muscular irritability. My experiments prove that it is not so. Consequently, it remains to know in which of the three other organs exists the deficiency. It appears to me that it is in the brain, because a great many experiments have demonstrated that the nerves and the spinal marrow, when put strongly in action, remain very active during a long time, provided that the circulation of blood continues in them.

In saying that the action of the brain is deficient, I do not mean the action of the whole brain, but that of the part of that organ which is used in producing the contraction of these muscles, which are put in action.

From the preceding facts and reasonings I think I am justified in concluding:—

1st. That it is the action of a part of the brain, and not the muscles,

which is deficient, when our will is unable to maintain a permanent contraction in them.

2d. That circulation and nutrition are but little diminished in muscles strongly contracted.—*Philad. Med. Examiner.*

THE BOSTON MEDICAL AND SURGICAL JOURNAL.

BOSTON, JULY 14, 1852.

Medical Meeting at Pittsfield, Mass.—Notwithstanding the notices already given of the anniversary meeting of the Massachusetts Medical Society, we again take pleasure in referring to the subject, because it affords an opportunity of speaking of the fidelity of a report of the doings in the columns of the *Culturist and Gazette*, a weekly paper, abounding in matter of universal interest. Had a copy been received earlier, more copious extracts might have been made. The following paragraphs, of a business character, may be of service to the absent members, and are therefore copied.

"Treasurer's Report was then presented. Now in Treasury, \$600, but bills amounting to about \$1100 were mature and liable to be, at any day, presented, which would materially change the footings. The treasurer made a strong appeal to the district societies to make and forward their collections.

"Committee on Scientific Communications reported. Voted, that the hour of 11, A. M., at the next Annual Meeting, be fixed for scientific and professional communications and discussions thereon. The great importance of such communications was duly enforced, and the assurance given that the exclusion from the annual meeting of all discussions relating to *By-Laws* would give time for such papers and discussions. Committee of last year continued."

Sanitary Measures.—Dr. Clark's address before the Suffolk District Medical Society is upon the subject of the superiority of sanitary measures over quarantines. England and France are making progress in the right direction, but here in the United States it is extremely difficult to change, even for the better, where health is contemplated; and hence the useless machinery of a complicated quarantine is still persisted in, both at N. York and Philadelphia, the very ports, of all others in America, which should be free from embarrassments to commerce. Boston has a more rational system in this respect than either of those great cities. But the burial of the dead within our limits, even under some of our churches, shows that we are behind the age. How much longer this culpably bad custom is to be maintained, just because our ancestors knew no better than to concentrate the dead in the midst of the living, remains to be determined. When that nuisance is abated—when grave yards within the city are forever closed, and further intermural transgressions against the fundamental laws of health are no longer tolerated—an improved state of things may be anticipated. It is quite impossible to ascertain what amount of destructive influence is referable to the decomposition of the hundreds of decaying human bodies, buried in our city cemeteries. The opinion is general, that

it would be wise to have them transported to rural cemeteries in the country, as the atmosphere around them must necessarily be loaded with impurities.

Indiana Medical Society.—Samuel Grimes, M.D., of Delhi, addressed the profession of the State of Indiana, on the 20th of May, at New Albany, in a felicitous manner. He exhibited what are called medical reformers, without mercy, and many of them would loathe themselves were they to see the portraiture drawn of them by the speaker. With becoming zeal Dr. Grimes rebukes the radical spirit of the times, which encourages the ignorant to tamper with health, as though life were of no importance when individual ambition happens to be the prevailing "motive power." No topic which properly comes within the range of a well-informed mind, and having a bearing on the general interest and character of medical practitioners, appears to have escaped his searching scrutiny. Medical schools must take high ground, and faithfully instruct those who are to go among the people. We have but one objection in regard to the discourse. Instead of being given to a country paper, which it is scarcely possible one physician in a hundred, even in the western States, will ever see, it should have been transmitted to a medical journal, the appropriate organ for such productions. Dr. Grimes is hopeful, and evidently ambitious that the State from which he hails shall maintain an honorable position in the brotherhood. He says:

"In order to give effect to our wishes and intentions on all that relates to the improvement and elevation of our profession, we must act through our State Society organization. Indiana, in this respect, will not, I hope, be backward in rivalling her sister States; some of which, as Pennsylvania, New York and Tennessee, furnish, in their transactions, commendable example for imitation. For this purpose it is all-important that the County Societies should be well organized, as on their efficiency will depend the weight and character of the State Society. From each of them we may expect an account of the medical topography of the county, and of the diseases to which it is subject in successive seasons, together with those of an evidently epidemic nature. Clearness and brevity should be consulted in these descriptions and histories, if it is desired to render them acceptable to hearers or readers, and creditable to their authors.

"I would recommend our Society to petition the Legislature for an act requiring a registration of births, deaths and marriages, so that we may be furnished with valuable *vital statistics*, and which will serve as a basis for many exceedingly interesting inquiries both of medical and general value."

University of Nashville.—Mention has heretofore been made of the spirited medical school of Nashville, Tennessee—a department of the University of that place. A catalogue of the University has been received within a few days, that fully sustains the opinion entertained in regard to its completeness and efficiency. Thirty-three were graduated at the close of the term. Ample preparations are in progress for a brilliant lecture term the coming season. A story seems to have been propagated, injurious to the reputation of the school, that there was a scarcity of material for anatomical pursuits. This is contradicted. An abundance of whatever is necessary is at the command of the students, and the lectures in all re-

spects are of a most elevated character. It would not be surprising were Nashville to become a great medical centre. All the elements of a popular college of medicine are there. Industry, a liberal policy, and the frank, generous deportment of the faculty, raise high expectations in this direction.

Sick Room Furniture.—A notice in the Journal recently of a fixture to a common bedstead, for the special service of the sick, has brought out another ingenious device, rather more complicated, but admirable in all respects. It is called the *invalid couch*, and may be examined at 21 Bromfield st. It is a frame-work, with a simple combination of levers, which may be put into all kinds of angles to meet the ever-varying whims or necessity of a sick patient. Of course we shall not pretend to criticize the mechanism. In one of the many Protean forms, it is a sofa; next a lounge, with or without arms; then an inclined plane; and then, presto, it is something else, designed to promote the comfort of those who are uncomfortable. By these inventions and constructions our ingenious mechanics are really doing physicians as well as the sick a kind service. And that is not all. Another set of minds may be quickened to invent or improve upon what is now thought so very clever.

Summer Epidemics.—Formerly, physicians had considerable to say upon summer epidemics, as though they were a fixture at certain times and in certain sections of the country. It is true that there are occasional intimations of a tendency that way, and the mortality of a city increases as the summer advances; but the very general cultivation of the land in N. England, the drainage of fields in the neighborhood of villages, careful attention in locating dwellings, the facilities for procuring pure water, and the increased intelligence of the inhabitants generally, as manifested in other respects, has had something to do in overcoming an epidemical tendency. In old houses, thickly clustered together, so that the sun cannot penetrate into all the crooked by-ways in which they are situated, and in which the poor and negligent usually monopolize every apartment that will give a tolerable shelter, the most formidable types of malignant disease are liable to manifest their energy. The conservators of the public health are quite familiar with this fact, and by keeping a vigilant eye on such receptacles of filth, neglect and poverty, they are often able to prevent a sudden outbreak of disease. Practitioners of medicine, too, understand better than formerly how to meet these messengers of terror. It is reasonable to expect, therefore, that the community will not suffer, as in times past, either in imagination or reality, from sudden developments of anomalous summer distempers, coming and going without being clearly understood beyond the destruction that marked their track.

Medical Anniversary Discourse.—The papers of Berkshire county speak in terms of warm commendation of Dr. Sabin's discourse before the Mass. Medical Society. It was on the duties, trials and pleasures of the profession, and was marked by "his accustomed vigor of thought and beauty of style," says the Pittsfield Sun. When published, we shall allude to it more particularly.

Boa Vista Fever.—A series of public documents, in folio, were ordered to be printed by the British Parliament in 1848, made up of letters and reports from Gilbert King, M.D., inspector of hospitals; Sir William Pym, Superintendent General of Quarantine, together with a report by J. O. M'Williams, M.D., Medical Inspector of Customs. Copies were received from England at that time, and a brief notice of the subject was given in the Journal. In the years 1845 and 1846, an epidemic fever prevailed in the Island of Boa Vista, one of the Cape de Verds. A question arose whether the disease was introduced there by an English government vessel, the *Eclair*, or had its origin from some other source. Each medical official, and some persons who only held a military station, addressed the Lords of the Privy Council on the subject—which finally took the form of a kind of controversy of opinions. It would take half a dozen pages to give the facts, and then they would be of no value, since it is difficult to decide which of the three who figure most prominently in the correspondence has the right of the story. Those who take pleasure in studying the anatomy of a case like this, are welcome to the use of the papers to make their own investigations.

Sulphate of Bebeerine.—Dr. H. S. Patterson, of Philadelphia, gives some account, in the Medical Examiner, of his use of this new article as a substitute for sulphate of quinia. He says—"The sulphate of bebeerine has been shown, by Dr. MacLagan, of Edinburgh, to be a medicine of very considerable anti-periodic power, closely resembling the corresponding salt of quinia, and in many respects equal to it, possibly superior. It is obtained from Bebeeru or Green-heart (*Nectandra Rodiei*), of British Guiana, a tree of considerable size and extremely abundant. The bark yields the alkaloid largely, but it is particularly abundant in the nut. A decoction of the latter is the ordinary popular remedy for intermittent fever in Demarara; and, as I am informed by an intelligent gentleman of that place, seldom, if ever, fails to arrest the disease. The nut may be collected in almost indefinite quantities, and could be obtained here, if a demand were created, for little more than the expense of collection and transportation. The process for separating the alkaloid is almost identical with that of quinia, and not more expensive. If, therefore, it proves on trial equal in efficacy to that alkaloid, we will have a cheap and effective substitute within the reach of all. The subject certainly deserves a more extended investigation than it has hitherto received."

Epidemiological Society.—This medical organization was formed in London, December 2, 1850. It contemplates a systematic investigation of epidemic diseases. Dr. Babington's address, on opening the first session, is very much beneath what might be expected from a man of his marked medical position. He is president of the society, but his discourse is a tame, cold, common-place piece of composition, that could not have been received from a less elevated source with any expressions of approbation.

Vermont Medical College.—The Annual Commencement exercises took place on the 16th ult., which consisted of Vocal Music, an address by Judge Collamer, conferring of degrees, &c. Several young gentlemen who graduated, presented claims for the honors of the Institution highly creditable. The class of graduates numbered twenty-four.

Pennsylvania Medical College.—Dr. I. M. Allen has been appointed Professor of Anatomy; Dr. F. G. Smith, Professor of the Institutes of Medicine; and Dr. J. J. Reese, Professor of Medical Chemistry and Pharmacy, in this school. These appointments will add strength to the school.

M. Chomel.—Politics affect even the peaceable science of medicine. M. Chomel, the celebrated Parisian physician, having refused to take the oath to the President, required by the *quasi*-constitution, has vacated his professorship at the College of Medicine.

Medical Miscellany.—A lady of Stamford, Conn., died last week in consequence of inhaling chloroform, preparatory to the extraction of a tooth.—Massachusetts has 126 inhabitants to every square mile, and New York only 67.—The degree of M.D. was conferred by Columbia College, commencement day, on Drs. De Bandelevin, of S. C., and C. Lewis, of Kentucky.—There were but 13 deaths, last quarter, at the Chelsea Marine Hospital. June 30th, 76 patients were under treatment. Dr. Ingalls is giving gratifying satisfaction. He is skilful, attentive and humane.—It seems that 40,000 persons died of cholera at Jamaica, last year.—John Batlin died a short time since, near New York, aged 100 years. Before sunrise daily, he had walked on the Battery for 40 successive years.—The Jews of New York contemplate a hospital for their own poor.—Three members of the London Commission on Sewers have died from exposure to the worst of atmospheres, in their official examinations under ground.—Morrison, the notorious patent medicine man, is reported to have paid for advertisements, between the years 1830 and 1844, the enormous sum of \$540,000.—There are 100 regular physicians in Chester Co., Pennsylvania.—A young woman was lately delivered in Cork of four living children, two boys and two girls, who, with the mother, are reported "to be well as can be expected." Quadruple births are somewhat rare, but it is still more rare to find that all the four children survive.

MARRIED.—Dr. L. C. Dolly, Rochester, N. Y., to Miss S. R. Adams.—Dr. L. N. Jones, of Belleville, C. W., to Miss M. C. Perry.—Dr. A. W. Fenner, of Rochester, N. Y., to Miss J. M. J. Mattison.

DIED.—Dr. Joseph Prescott, the last survivor of the original Society of the Cincinnati, at Halifax, Nova Scotia, on the 25th ult., in the 91st year of his age. Dr. Prescott and the late Dr. Thacher served together as physicians in our revolutionary army.—At N. Haven, Conn., Dr. John R. Chapin, of New York, 41.—At Edinburgh, on the 15th of May, Dr. William Thomson, Professor of the Practice of Physic in the University of Glasgow, in the 50th year of his age. Dr. T. was the eldest son of the distinguished Prof. John Thomson, and brother of Allen Thomson. He was the author of a work on the diseases of the liver, and the earliest to describe the spurious melanosis of the lung, or miner's phthisis.

Deaths in Boston—for the week ending Saturday noon, July 10th, 74.—Males, 32—females, 42. Accidental, 3—disease of bowels, 2—inflammation of brain, 1—congestion of brain, 1—consumption, 14—convulsions, 5—coup de soleil, 1—cholera infantum, 1—cancer, 1—croup, 1—dysentery, 2—diarrhoea, 1—dropsy, 1—dropsy of brain, 3—erysipelas, 2—fever, 1—typhoid fever, 2—scarlet fever, 6—disease of the heart, 2—infantile, 6—inflammation of the lungs, 4—marasmus, 4—measles, 1—old age, 3—puerperal, 1—teething, 4—thrush, 1—unknown, 1.

Under 5 years, 33—between 5 and 20 years, 8—between 20 and 40 years, 14—between 40 and 60 years, 15—over 60 years, 4. Americans, 27; foreigners and children of foreigners, 47. The above includes 9 deaths at the City institutions.

Astringent or Anti-diarrhæal Mixture.—Tinct. Catechu, two parts; Tinct. Opii, Tinct. Camphoræ, Tinct. Myrrhæ, Tinct. Capsici, of each one part. Mix—dose, from one to two teaspoonfuls.

This is a prescription we have been using constantly for the last ten years in the treatment of ordinary cases of diarrhæa and cholera morbus, with such marked success that we have been very frequently applied to for it. It should not be given until the discharges have been sufficient to empty the bowels completely. In most cases of diarrhæa a teaspoonful given in a wine-glass full of water morning and night, or three times a day, will speedily arrest the disease. In cholera morbus the dose should be doubled. If it be borne in mind that it contains one part of laudanum in six, the dose may be easily graduated for children. To a child one year of age we usually give from 12 to 24 drops, and by its timely use may generally arrest the attacks to which they are so subject in spring and summer. The remedy is rarely useful in dysentery.—*Southern Med. and Surg. Journal.*

An Eye destroyed by a Bird-shot.—Mr. — was hunting birds on the 11th March, 1843, when, in order to secure their game, he took one side of the field and his brother the other, the distance between them being supposed sufficiently great not to incur any risk in firing towards each other. His brother fired, and a single shot seems to have reached Mr. —. This passed through the cornea and lodged within the globe of the eye. There being but little pain, and several days passing without much inflammation, the patient flattered himself that the accident would not prove very serious. The pain, however, began to be acute, inflammation rapidly increased, the eye swelled out enormously, and the patient was finally relieved by excision of the cornea, which allowed the disorganized humors to escape with the shot in their midst. Recovery took place in the usual time, and a glass eye was substituted, which very effectually obviates the deformity.

The reporter finds in the *Southern Medical and Surgical Journal*, for 1838 (vol. 2, p. 647), several cases recorded, in which Prof. Dugas resorted to excision of the cornea for the purpose of relieving great local pain and constitutional disturbance consequent upon a disorganization of the contents of the eye. Whenever the eye is irretrievably lost and proves a source of serious annoyance, Prof. D. thinks that it should be at once emptied, both as a measure of relief and as a security against sympathetic disease in the sound organ. He has never found any bad effects from such a course.—*Southern Medical and Surgical Journal.*

British Lying-in Hospital for Married Women.—This hospital, which was opened in Endell street, Long-acre, last February, and upon the erection of which a large sum of money had been expended, is, we regret to say, so crippled in finances as to be compelled to close a number of its wards. This deficiency in its exchequer arises from numberless deaths amongst its old supporters. It is, however, to be hoped that so useful an institution, after dispensing its benefits for one hundred and three years, will not be allowed to languish from want of proper support.—*Lancet.*

New Work in London.—Just published, *The Principles and Practice of Surgery*. By William Pirrie, F.R.S.E., Regius Professor of Surgery in the University of Aberdeen. With numerous engravings on Wood.